Non-farms and USD Report

2nd June 2008

Anthony Grech,
Research Analyst,
IG Index

Non-farm Payrolls: Trading with data

Non-farm Payrolls is one of the most significant economic announcements and is released at the beginning of every month; but how can you use such an indicator to your advantage?

Objective

This report intends to provide the reader with a better understanding of the significance of US Non-farm Payroll data and explore the possibility of trading on actual vs expected figures.

Non-farm Payrolls

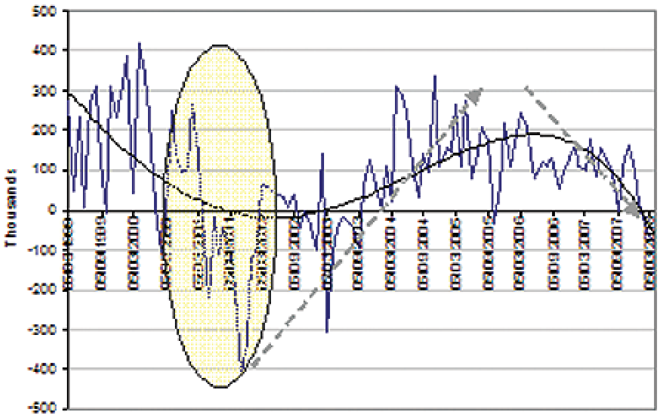
Many traders, and other market participants, spend a great amount of time monitoring economic indicators in an attempt to identify trends in economic growth. Some of the most watched economic indicators include the Gross Domestic Product (GDP), Consumer Confidence, Retail Sales, Consumer Price Index (CPI), Housing Starts, and Non-farm Payrolls. The significance of each economic indicator will vary according to the economic conditions; Non-farm Payrolls always carry a considerable amount of weight, however.

Non-farm Payrolls form part of the Employment Situation Report from the Bureau of Labour Statistics (BLS). This report is released on the first Friday of every month and covers the previous month's unemployment rate, job growth and payrolls, among other statistics. As the name implies, the Non-farm Payroll report measures the monthly change in number of individuals on the payrolls in all non-agricultural sectors.

The market examines the Non-farm Payrolls figure closely because it is an indicator for consumer spending and provides a gauge for economic growth and inflation. In addition, Total Non-farm Payrolls account for approximately 80% of the workers who produce the entire GDP of the United States. Therefore, this data not only provides economists with an indication of the current state of the US economy but also influences the Federal Reserve when setting interest rates.

Although Non-farm Payrolls data are volatile, as seen in Chart 1, and there is the possibility of historic data being revised, payroll figures offer a timely and comprehensive snapshot of the economy. Chart 1 shows a trend-line running though the volatile Non-farm figures; there is a clear cycle which reflects the state of the US economy. For instance, in 2001 Non-farm Payrolls declined into negative territory, indicating a period of labour market weakness and instability. Economists could have anticipated the 2001 recession, utilising the change in the trend in Non-farm Payroll data (which started to weaken in 2000) as a leading indicator of the direction of the overall economy.

Chart 1: Non-farm Payrolls (Monthly change)



Data retrieved from Bloomberg (28 April 2008)

USD behaviour - trading on actual vs expected data

Traders generally monitor the level of actual Non-farm Payrolls and compare them to consensus estimates. The difference between the actual and expected figures provides further insight into economic conditions. If Non-farm Payrolls are rising and actual figures beat expectations, it is a good indication that the economy is growing and positive for the US dollar.

Research conducted by Faust et al (2003) supports this premise: in their report they confirmed that 'stronger than expected real releases (e.g. Non-farm Payrolls, Retail Sales, GDP) tend to appreciate the dollar and raise short and long-term interest rates in the US' [1]. It is also important to note that if the increase in Non-farm Payrolls is too rapid, this may signal inflationary risks and portend an increase in interest rates. On the other hand, if the actual data is lower than economists' consensus estimates, traders may start to anticipate a weakening economy and sell US dollars. Therefore, assuming the rationale behind this is correct, then buying, for example, EUR/USD when actual Non-farm Payrolls are worse than expected could be profitable, and vice versa.

In practice, market participants occasionally trade on news and place a trade on the breakout of a big number. For instance, Non-farm figures for February came in at -63,000 on 7 March 2008, materially lower than consensus expectations of +22,500. The weaker than expected labour statistics pointed to further rate cuts in the US and the

[1] Jon Faust et al (2003), 'The High-Frequency Response of Exchange Rates and Interest Rates to Macroeconomic Announcements' International Finance Discussion Papers –Number 784.

dollar immediately weakened; EUR/USD was propelled to a fresh high of 1.5463, but later that day, the US dollar strengthened and the EUR/USD ended 0.16% lower than its previous close at 1.5356. On 4 April, Non-farms for March came in worse than expected at -80,000 versus market expectations of -50,000. This time around the EUR/USD rallied and ended the day higher at 1.5738, representing a 0.34% rise from its previous close of 1.56840. These scenarios are illustrated on Chart 2 overleaf.

In both March and April, Non-farms were worse than consensus expectations. In March, the dollar immediately fell on the announcement, but later rebounded and ended the session stronger. In April, the dollar continually weakened and ended below its previous close. Clearly, Non-farm Payrolls have a significant impact on moving the dollar (especially after the announcement), but there is no simple formula in determining if dollar direction will be maintained throughout the day – the relationship between Non-farms and EUR/USD is explored in further detail in the following section.

Chart 2: EUR/USD on Non-farm Payroll day

EUR/USD: 7 March 2008

The section highlighted in yellow refers to 7 March 2008

EUR/USD: 4 April 2008

The section highlighted in yellow refers to 4 April 2008.
Data retrieved from Bloomberg (28 April 2008)

US Dollar reaction immediately after Non-farm Payrolls

Research conducted by Martin D Evans (2004) empirically justifies that 'Non-farm employment makes a far larger contribution to the variance of daily returns on the day of the announcement than news about other items' [2]. He also stated that currency reaction is strongest immediately after the release of the economic data.

This section will investigate this premise further by observing the reaction of the US dollar on the announcement of Non-farm Payrolls and attempting to identify when is the optimal time to trade. I have compiled Table 1 and Chart 3, in order to illustrate the US dollar reaction after the announcement of Non-farm Payrolls. Table 1 shows the rebased performance of the EUR/USD, in five minute intervals, between 13:25 (five minutes before the announcement of Non-farm Payrolls) and 14:00. Chart 3 shows the same information, however, in chart form and until 17:00.

Table 1 shows that whenever actual Non-farm Payrolls were better-than-expected, the dollar appreciated and EUR/USD fell, and vice versa – in-line with the conventionally accepted principle identified by Faust et al (2003) in the previous section. The reaction appeared to be strongest, on average, within the first five minutes after the Non-farm Payroll announcement.

As such, the trader who speculated worse-than-expected Non-farm data, for instance on 7 March, would have been able to lock in a higher return (on that day) by closing the position within five minutes of the announcement (with the exception being 7 March 2008 which continued to rise 10 minutes after the announcement). In this manner, a trader would have minimised the risk of the market turning in the opposite direction. Therefore, trading on actual versus expected data could be more rewarding when done during the first one to five minutes of the economic release, rather than keeping the position for the entire day.

Alternatively, a trader may attempt to place an adverse position five minutes after the announcement. EUR/USD, as seen in Table 1 and Chart 3, generally lost momentum after the five minutes period following the announcement, and EUR/USD retreated back in the opposite direction.

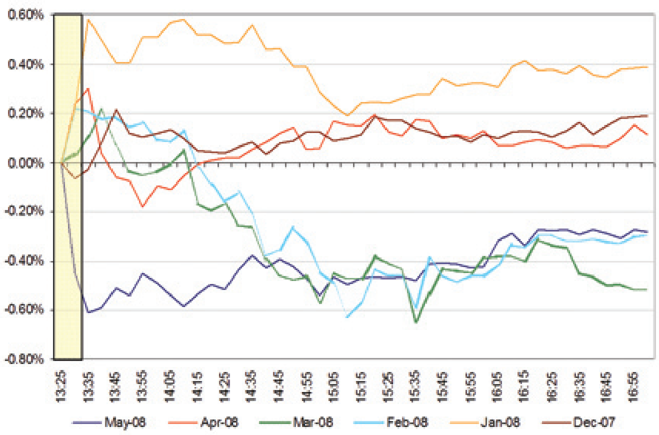
[2] Martin D.D. Evans and Richard K Lyons (2004), Do Currency Markets Absorb News Quickly?

Table 1 : EUR//USD reaction after Non-farm Payrolls

ACTUAL	-20,000	-80,000	-63,000	-17,000	18,000	94,000
EXPECTED	-78,000	-50,000	22,500	70,000	70,000	80,000
Non-Farms	better	worse	worse	worse	worse	better
EUR/USD	down	up	up	up	up	down
	02-May-08	04-Apr-08	07-Mar-08	01-Feb-08	04-Jan-08	07-Dec-07
13:25	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
13:30	-0.45%	0.24%	0.04%	0.22%	0.22%	-0.07%
13:35	-0.61%	0.30%	0.10%	0.21%	0.58%	-0.03%
13:40	-0.59%	0.04%	0.21%	0.17%	0.50%	0.08%
13:45	-0.51%	-0.06%	0.07%	0.19%	0.41%	0.22%
13:50	-0.54%	-0.08%	-0.03%	0.14%	0.40%	0.12%
13:55	-0.45%	-0.18%	-0.05%	0.16%	0.51%	0.10%
14:00	-0.49%	-0.10%	-0.04%	0.09%	0.51%	0.12%

Data retrieved from Bloomberg (14 May 2008)

Chart 3: EUR//USD reaction after Non-farm Payrolls



Data retrieved from Bloomberg (14 May 2008)

Day movement in EUR/USD

In the previous section, I identified that the EUR/USD reaction is generally strongest within five minutes of the announcement. During this short time-frame the US dollar moves in the conventionally accepted manner: stronger-than-expected Non-farm Payrolls leads to a boost in the US dollar while worse-than-expected leads to a drop in the US dollar.

I also mentioned that the dollar generally loses momentum after the five minute period and changes direction. This would have worked against traders who initially made the right move but ended up being stopped out toward the end of the day, as would have happened in the 7 March 2008 example. Table 2, provides further evidence supporting the view that the dollar does not continue to move throughout the rest of the day in the direction suggested by the outcome of Non-farm Payrolls.

Table 2, shows the release of actual and expected Non-farm Payroll data for 30 months and the close of the EUR/USD on the day of release. During this period, Non-farms outperformed expectations 14 times, which would have warranted a decrease in EUR/USD. EUR/USD ended lower just 9 out of 14 months or 64% of the time, however. On the other hand, Non-farms underperformed expectations 16 times and EUR/USD ended the day higher just 9 out of the 16 months or 56% of the time. It appears that, on average, there is around a 60% chance of the dollar ending the day higher than the previous day if Non-farms outpace expectations, and vice versa.

Table 2: Actual vs Expected Non-farm Payrolls

US Non-Farm Payrolls				EUR/USD		
Release Date	Actual Release	Expectations	Worse/Better	Prev Day	Close	% Chg
02-Dec-05	215	210	better	1.17370	1.1718	-0.16%
06-Jan-06	108	200	worse	1.21100	1.2151	0.34%
03-Feb-06	193	250	worse	1.20910	1.2024	-0.55%
10-Mar-06	243	210	better	1.19100	1.191	0.00%
07-Apr-06	211	190	better	1.22290	1.2092	-1.12%
05-May-06	138	200	worse	1.26910	1.2727	0.28%
02-Jun-06	75	170	worse	1.28040	1.2918	0.89%
07-Jul-06	121	175	worse	1.27820	1.281	0.22%
04-Aug-06	113	143.5	worse	1.28030	1.2874	0.55%
01-Sep-06	128	125	better	1.28130	1.2836	0.18%
06-Oct-06	51	120	worse	1.26940	1.2601	-0.73%
03-Nov-06	92	122.5	worse	1.27800	1.2718	-0.49%
08-Dec-06	132	100	better	1.32880	1.3203	-0.64%
05-Jan-07	167	100	better	1.30840	1.3003	-0.62%
02-Feb-07	111	150	worse	1.30220	1.2961	-0.47%
09-Mar-07	97	95	better	1.31330	1.3115	-0.14%
06-Apr-07	180	130	better	1.34300	1.3379	-0.38%
04-May-07	88	100	worse	1.35500	1.3591	0.30%
01-Jun-07	157	131.5	better	1.34530	1.3449	-0.03%
06-Jul-07	132	125	better	1.35990	1.3628	0.21%
03-Aug-07	92	127	worse	1.37040	1.3774	0.51%
07-Sep-07	-4	100	worse	1.36910	1.3769	0.57%
05-Oct-07	110	100	better	1.41380	1.4135	-0.02%
02-Nov-07	166	84.5	better	1.44250	1.4504	0.55%
07-Dec-07	94	80	better	1.46380	1.4658	0.14%
04-Jan-08	18	70	worse	1.47500	1.4743	-0.05%
01-Feb-08	-17	70	worse	1.48610	1.4802	-0.40%
07-Mar-08	-63	22.5	worse	1.53800	1.5356	-0.16%
04-Apr-08	-80	-50	worse	1.56840	1.5738	0.34%
02-May-08	-20	-78	better	1.54750	1.5424	-0.33%

Data retrieved from Bloomberg (14 May 2008)

Long Term Trading

Traders may also attempt to identify and trade upon long-term trends and fundamentals and avoid short-term fluctuations by placing stops at wider levels.

For instance, in the 7 March example the dollar initially strengthened after a series of rate cuts by the Fed suggested that the Fed would not be as aggressive – between December 2007 and February 2008 the Federal Reserve slashed rates by 125 basis points, from 4.25% to 3%. However, in the days following the Non-farms announcement, the EUR/USD touched consecutive highs as the ECB remained hawkish on inflation and US economic indicators continued to deteriorate. This changed the market's perspective and rumours of further rate cuts emerged: between February 2008 and April 2008 the Federal Reserve cut rates by a further 100 basis points to 2%.

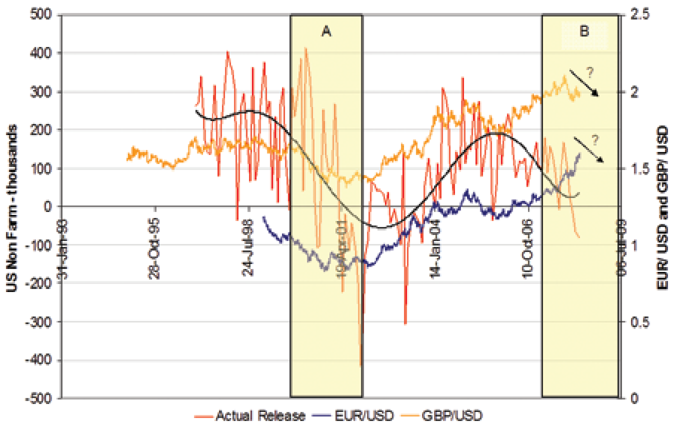
Chart 4 attempts to identify long-term trends. It plots the EUR/USD and GBP/USD on the secondary axis and the monthly change in Non-farm figures on the primary axis. The chart shows a declining trend-line in the monthly change of Non-farm Payrolls between December 1999 and December 2001 – Chart 4 on section A: This was a period when US interest rates fell from 5.5% to 1.75% and the dollar strengthened – EUR/USD fell 11.6% from 1.0062 to 0.8895 and GBP/USD dropped 10.11% from 1.6182 to 1.4546. During this period, the US Dollar Index (USDX Index) climbed 14.6% from 101.87 to 116.75, as the market began anticipating that the 'worst was over' and the dollar won support as traders bought it at cheap levels.

Between June 2007 and April 2008 – Chart 4 section B: Non-farms trended lower and US interest rates fell from 5.25% to 2%. Nevertheless the US dollar remained weak: Between June 2007 and April 2008 EUR/USD rose 18.09% from 1.3542 to 1.5992. However, between April and May 2008 the dollar started to appreciate and EUR/USD fell 3.25% to 1.5473 and GBP/USD fell 2.47% to 1.9459. Around the same period, the USDX Index rose from 71.329 to 73.514, representing a 3% increase.

The downtrend in Non-farm Payrolls, as seen on Chart 4 section A, was accompanied by a strengthening dollar – this occurred because the market was forward-looking and bought the dollar at cheap levels. In Chart 4 section B, the trend in Non-farms has changed direction, could this be followed by a strengthening dollar? Or is it too premature?

In my opinion, any short term gains in the US dollar are premature, as Eurozone economic fundamentals have proven to be resilient to the current downturn. It would be interesting to see if the next couple of Non-farms bear out the change in the trend, and whether this leads to increased strength in the US dollar. I would also look at other fundamentals that show signs of weakening Eurozone growth and inflation.

Chart 4: Trends -Non Farm Payrolls & US dollar



Data retrieved from Bloomberg (14 May 2008)

Overview

In the first section, I stated that US Non-farm Payrolls are an important gauge of the state of the US economy. Research conducted by Martin D Evans (2004) shows that Non-farms have a significant impact on the variance of the US dollar, especially on their announcement. My observation also supports this view: My Non-farm sample in Table 1 takes a six month view and shows that whenever Non-farms were better-than-expected, the dollar appreciated, and vice-versa. This reaction occurred within the first one to five minutes of the announcement, on average. After this five minute period, the US currency lost momentum and changed direction.

Assuming my observation holds true most of the time, traders could attempt to capitalise on short-term dollar movements by either placing a bet immediately on the announcement and closing the position within the five minute time frame, or taking an adverse position five minutes after the announcement, when momentum runs out. These strategies are, in my opinion, better suited to the more advanced trader.

In the following section, I took a wider view and compared the daily change of the EUR/USD on Non-farm Payroll day. Around 60% of the time, the US dollar rose above its previous day's close when Non-farms were better-than-expected, and vice versa. Although a 60% chance is significant, I feel that it is not strong enough to develop an effective trading strategy.

Finally, I stated that taking a long-term view is the most profitable strategy. I attempted to identify trends in Non-farm Payrolls and the US dollar, and found that a decreasing trend in Non-farm payrolls is often accompanied by a strengthening US dollar - this occurs because the market is forward looking and acquires dollars at cheap levels, just before an upturn. I identified a similar trend but cautioned that current gains in the dollar could be premature, as the Eurozone fundamentals are proving to be more resilient than expected. I suggested waiting to see if further drops in Non-farms will help the dollar strengthen and wait for signs of easing Eurozone inflation and growth.

It is important to mention that the release of economic news from around the world moulds market expectations and triggers volatility in currency markets, making it difficult to trade on any one economic indicator. Therefore, viewing various economic indicators in conjunction with Non-farm data is always recommended, as it provides a clearer understanding of economic conditions. It is also essential to note that economic circumstances are constantly changing, which means that the significance or weight of certain economic indicators may shift accordingly.

Disclaimer